



## Typhoon Soudelor (13W) Situation Report #5 August 7, 2015 (12:00 PM EDT)



DOE ESF-12 on island in Saipan working with Commonwealth Utility Corporation's (CUC) officials to assess damage to the 70 MW diesel-fueled power generation plant located in Tanapag, Saipan brought on by Typhoon Soudelor. Photo taken August 3, 2015. **Photo credit:** ESF-12 DOE Responder Embedded with FEMA IMAT Team on Saipan. **Source:** U.S. Department of Energy

### Highlights:

- Typhoon Soudelor impacted the island of Saipan directly on Sunday, August 2, with highest reported wind speeds of 91mph. NOAA's Guam Forecast Office is no longer reporting on Soudelor.
- Still current as reported yesterday, August 6, Saipan remains without power with more recent damage assessments reporting 48 percent of the Saipan power grid is inoperable due to loss of power poles and downed lines. Power restoration is estimated at three weeks according to both the Commonwealth Utilities Corporation (CUC) with assistance by Guam Power Authority (GPA).
- Effective yesterday, August 6, the priorities identified by Commonwealth of the Northern Mariana Islands (CNMI) are:
  - Debris Removal Plan
  - Water Distribution Course of Action; **FEMA IMAT and CUC have identified 15 priority water system wells for generators.**
  - Fuel Distribution Course of Action
  - Mass Sheltering
  - Mass Feeding
- **The Mobil Saipan terminal resumed normal operations Thursday August 6, and fuel deliveries have started, according to Mobil Marianas. No major damage sustained at the IP&E terminal which is**



currently running on a backup generator. The terminal has been loading trucks since Tuesday August 4.

- Heavy rain on island Saipan August 6 hampered drying efforts at Power Plant 1. The power plant house was not cocooned with tarps prior to the rain, adding a week to the restoration timeline for Power Plant #1.

## DOE Actions:

### Operations:

- Effective July 31, 2015, at 12:00PM EDT/9:00AM PDT, the Department of Energy's Energy Response Organization (ERO) activated to Level III (Enhanced Watch) in support of Tropical Storm Soudelor (13W).
  - Effective August 5, 2015, DOE's Fossil Energy (FE), DOE's Energy Efficiency and Renewable Energy (EERE), as well as the Energy Information Administration (EIA) are contributing subject matter expertise to the response effort.
- Effective August 7, 2015, two ESF-12 field responders are deployed with Regional IMATs in the area of impact. Due to a cancelled flight one representative is in Saipan and the other is in Guam. Additional DOE IMAT representatives are on standby and a long term staffing plan is in place.
- Effective August 7, 2015, two ESF-12 staff are covering 24 hour operations at the FEMA Region IX Response Coordination Center (RRCC) in Oakland, CA.

### Energy Sector Outreach:

- DOE Energy Response Organization (ERO) staff at headquarters as well as DOE ESF-12 personnel deployed to Saipan and Guam have been in direct communication with the petroleum terminal operators in Saipan.
- DOE ESF-12 in FEMA Region IX has been communicating with the California Utilities Emergency Association and Pacific Power Association to conduct outreach to their members to determine supply availability to assist Saipan's restoration efforts.

## Electricity Information:

The electric power generation and distribution system of Commonwealth of the Northern Mariana Islands (CNMI) is managed by the Commonwealth Utilities Corporation (CUC), a public corporation of the CNMI government. Three of the fifteen islands are inhabited and about 90% of the population lives on Saipan (48,220 citizens). CUC's primary 13.8kV distribution power system has 8 feeders for commercial and residential power supply. CUC's 34.5kV transmission power system is underground. Five (5) generators serve as primary power suppliers to five (5) feeders that span across the Northern part of Saipan. The remaining three (3) feeders provide power to the Water Loo Substation where three (3) feeders span across distribution lines on the Southern part of Saipan. All eight (8) feeders remain de-energized due to damage sustained by Typhoon Soudelor, as reported August 6. Lack of electricity to power pumps on Saipan is preventing water from being pumped into the reservoirs. Limited potable water is being delivered via truck, in order to allow residents to fill their storage tanks and bottles.



### Non-Nuclear Power Generation

- Heavy rain on island Saipan August 6 hampered drying efforts at Power Plant 1. The power plant house was not cocooned with tarps prior to the rain, adding a week to the restoration timeline for Power Plant #1.
- Established August 6, the joint CUC & GPA plan has been developed:
  - Priority I: Rebuild line from hospital to Power Plant #4
  - Priority II: Build out line to Power Plant #1
  - Priority III: Build out feeder line to the airport
- CUC has mutual aid agreements with Guam Power Authority.

Saipan Power Plants & Electric Statistics								
Location	Power Plant	Nameplate Capacity (MW)	Fuel	Peak Load (MW)	Number of Customers (March 2011)	Operating Status	Damage	Date
Tanapag, Saipan	Saipan Power Plants 1 & 2 (CUC)	69.9	Diesel	45	13,208	Inoperable	The structure housing Power Plant 1 was impacted by rain, adding one week to restoration. Plant 1 roof is damaged. Plant 2 requires a step up transformer.	Aug. 7
	Saipan Power Plant 4 (CUC)					Inoperable	Damage to all distribution lines, roof and generators.	Aug. 7

Source: U.S. Department of Energy, Company communications, EIA.

### Electricity Distribution

- CUC performed its preliminary assessments of high voltage electrical equipment on Monday August 3. CUC suffered widespread damage to Saipan’s power distribution system when Typhoon Soudelor made landfall the evening of Sunday, August 2.
- As reported August 6, damage assessments account 48 percent of the Saipan power grid is inoperable due to loss of power poles and downed lines. Power restoration is estimated at three weeks according to both the Commonwealth Utilities Corporation (CUC) with assistance by Guam Power Authority (GPA).
  - CUC estimates an increase in the field inventory of damaged transformers and power poles once field assessments have been completed on minor roadways.
  - CUC estimates 22% severely damaged power poles and 35% severely damaged distribution transformers island-wide.
  - All distribution lines coming out of Power Plant #4 are damaged.
  - The structures inside the Kiya 34.5/13kv substation fence appear to be operational. The distribution poles holding the three phase feeders into the Kiya substation are broken.
  - Beginning August 6, CUC is conducting integrity checks of standing power poles to determine unseen damage. Results may increase the pole supply request.
  - CUC personnel have begun stripping downed power poles to obtain any salvageable material for repurpose efforts.
- DOE ESF-12 in FEMA Region IX reported, as of August 7, 12:00AM EDT, California Utilities Emergency Association and Pacific Power Association are conducting outreach to members to determine supply availability to assist Saipan’s restoration efforts.
- Guam Power Authority (GPA) is transporting approximately 200 power poles from its stock. A lined storage location for damaged transformers needs to be identified.



- DOE ESF-12 in FEMA Region IX reported, as of August 6, 12:00AM EDT, ten (10) 125kW generators are expected to arrive in Saipan on Saturday, August 8, for water treatment and pumping stations. **Sites have been selected for each generator to provide power to well pumps.**

Field Assessment of damaged power poles and distribution transformers on major highways		
Category	Total Count	Date
Damaged Power Pole	276	August 6
Damaged Distribution Transformer	152	August 6
Total Feeder Damages	428	August 6

Source: CUC Preliminary Distribution Circuit Reparation Report

CUC Preliminary Report on Power Pole Needs				
Item	Stock Count	# of Damaged Poles	# of Poles Needed	Date
35 ft	28	4	None	August 6
40 ft	0	0	None	August 6
45 ft	64	213	149	August 6
50 ft	27	0	None	August 6
55 ft	8	59	51	August 6

Source: CUC Preliminary Distribution Circuit Reparation Report

CUC Preliminary Report on Distribution Transformer Needs				
Item	Stock Count	# of Damaged Transformers	# of Transformers Needed	Date
10 kVA	23	26	3	August 6
15 kVA	0	27	27	August 6
25 kVA d/b	26	22	None	August 6
37.5 kVA	0	12	12	August 6
37 kVA	0	5	5	August 6
50	0	14	14	August 6
75	9	26	17	August 6
100	0	12	12	August 6

Source: CUC Preliminary Distribution Circuit Reparation Report

Restoration efforts underway:

- Reported today, August 7, CUC and GPA line crews successfully placed 14 power poles from the Saipan hospital to Power Plant #4.
- USS Ashland departed Guam this morning, August 7, with recovery commodities. The expected arrival at the Port of Saipan is this afternoon. The following generators were shipped:
  - 1 each 11.5 kW
  - 14 each 25 kW
  - 10 each 125 kW
  - 2 each 455 kw
  - 1 each 480 kw
  - 1 each 500 kw
- Twenty (20) Guam Power Authority (GPA) subject matter experts (SMEs) arrived in Saipan yesterday, August 5, to collaborate with CUC on restoration efforts. **The requested three (3) bucket trucks and one (1) auger vehicle with an operator from GPA were not loaded onto the USS Ashland for delivery to Saipan from Guam, nor the initially planned barge transport method. DOE ESF-12 FEMA Region XI responders are working to find an alternate barge.**
- Fifteen (15) GPA linemen will arrive tonight (August 6) or tomorrow morning (August 7) on a commercial flight from Guam to Saipan to assist in restoration efforts.



- As of August 6, four (4) CUC linemen from Rota have arrived on island Saipan and have been assisting in restoration efforts.

## Nuclear Generation Facilities

- There are no nuclear generating plants in the Northern Mariana Islands.

## Petroleum & Natural Gas Information

The Commonwealth of the Northern Mariana Islands (CNMI) has no conventional energy resources and meets nearly all of its energy needs, including electricity generation, with petroleum received by ship at harbors on its three inhabited islands: Saipan, Tinian, and Rota.

## Crude Oil & Natural Gas Production

- CNMI has no indigenous crude oil or natural gas production.

## Petroleum Refineries

- CNMI has no petroleum refineries.

## Petroleum Terminals

- Two fuel storage facilities operated by Mobil Oil (10 tanks – gasoline, diesel, and jet fuel) and IP&E (4 tanks – gasoline) are located in Tanapag Harbor at the Port of Saipan on the central northwest side of Saipan (the largest island). These facilities receive shipments from larger storage terminals on Guam. The island of Tinian receives small shipments of transportation fuels at a facility in Tinian Harbor.
  - **Mobil Oil:** The Saipan terminal resumed normal operations Thursday, August 6, and fuel deliveries are ongoing to bring fuel to the airport and gas stations, according to Mobil Oil Marianas. The fuel tank that ruptured is no longer leaking fuel and has been temporarily sealed with a patch. Mobil completed the removal of gasoline and water in the secondary containment area. The facility is running on backup generation.
  - **IP&E (Shell):** No major damage sustained at the terminal and truck loading operations have been functional since Tuesday, August 4. All four tanks were refilled on Thursday, July 20. The terminal operates on grid power but is currently running on a backup generator fueled by stocks from the terminal. Due to high sales volumes of gasoline, IP&E is requesting a waiver from Guam Environmental Protection Agency to land the internal floating roof of a gasoline tank for approximately 7 – 10 days. This will allow the company to provide more gasoline supply to customers.
  - **Tanapag Harbor Spill:** USCG reports that a vessel broke free of its moorings and breached a 1,000-gallon diesel tank on Delta Wharf in the Port of Saipan, leading to the release of about 500 gallons into the water. A major pollution event was declared. Although the Port of Saipan reopened August 4, a Safety Zone remains around Tanapag Harbor. The spilled fuel has been coated with a protective, absorbent foam.
  - **Saipan Airport Fuel Farm:** Mobil Oil currently has 300,000 gallons of fuel at the airport fuel farm as of August 5. Airlines were requested to tanker in their own fuel to relieve the island of the limited capacity until the harbor fully reopens. Mobil Oil is delivering fuel to the airport and in support of relief efforts.



## Retail Service Stations

- As of Friday August 7, 13 of 17 known retail service stations open for business on Saipan. According to news reports, one (1) station is dedicated exclusively to servicing government official vehicles only, including responders. Motor gasoline supplies at retail service stations continue to be limited, according to open press reporting on August 7. Long waits have been reported at service stations. Many gas stations sustained damage from the storm, which is inhibiting refueling.
- Acting CNMI Governor Torres said August 5 that there is no fuel shortage and that long lines at gas stations are due to citizens seeking to refuel at the same time and ensure they have gas. The price freeze covering fuel, among other goods, is in effect until August 8.
- Mobil Oil opened seven (7) service stations (Middle Road, Susupe, Koblerville, Tanapag, Chalan Kiya, CMG San Jose, and San Vicente Mobil) from 12:00PM-6:00PM ChST on August 7. Customers can fuel their vehicle tank and fill up to five gallons in a portable tank.
- IP&E (Shell) reported that unspecified retail stations sustained damage from the storm and that several backup generators shut down as of August 7. The company is in the process of locating supplemental resources. Shell has opened five (5) of their eight (8) service stations (Puerto Rico, Gualo Rai, Highway Express, Shell Airport, and Susupe) from 8:00AM-5:00PM ChST as of August 7 with a sixth (6<sup>th</sup>) station (Koblerville) open to government official vehicles only. Gasoline and diesel were available at all stations except Shell Airport, which only listed gasoline. Fuel sales remain limited at \$50 per transaction for non-responders August 7, up from a limit of \$20 on August 4. IP&E Shell said it was working with the Department of Public Works and the Office of Homeland Security to stabilize the island and return to normal operation as safely and quickly as possible.
- CNMI Emergency Management has on-island fuel vendor making fuel deliveries.

## Fuel for Power Generation

- CNMI has the capability to refuel generator service tanks. The CNMI EOC has two tankers standing by, and any critical facilities that are low on fuel only need to contact the EOC to get replenished. A regularly scheduled fuel delivery should arrive August 10.
- The addition of 13+ generators already planned for operation is expected to put an additional load on the fuel distribution system.
- Due to an island-wide power outage, the Saipan Hospital is operating on backup generators. The hospital was receiving regular generator fuel refills as of August 5.
- STAR Water and Saipan Water and Ice Co. (drinking water distributors) noted low supplies of diesel fuel to run their generators are hindering their ability to deliver water as of August 6.

## Ports

- All CNMI ports are open to commercial vessel traffic and cargo operations. The Port of Saipan continues daylight operations only due to lack of power to run undamaged lights overnight, August 6 in to August 7. FEMA plans to deliver four light towers designated for port operations on the USS Ashland, which is scheduled to arrive August 8. USACE is assessing the power requirements for these lights. Saipan remains open to authorized vessel traffic and subject to USCG Safety Zone requirements surrounding Tanapag Harbor due to potentially hazardous conditions associated with damaged cargo containers. Tanapag Harbor is where the island's petroleum terminals are located. USCG Sector Guam's Incident Management Division is working on mitigation/cleanup at the Port of Saipan. A safety plan has been approved and operations to clear the containers that were blown into the Saipan harbor have commenced. There is no estimated completion time. The Saipan Port



had declared a major pollution event due to a 500-gallon diesel spill. EPA designated water quality and debris/HAZMAT SMEs are expected to arrive in Saipan no later than August 13.

Status of Ports		
Port Sector	Status	Date Stamp
Saipan (CNMI)	Open for daytime operations. Subject to USCG Safety Zone Requirements in Tanapag Harbor.	6:00 PM EDT, Aug. 3/8:00 AM ChST, Aug. 4
Tinian (CNMI)	Open	6:00 PM EDT, Aug. 3/8:00 AM ChST, Aug. 4
Rota (CNMI)	Open	6:00 PM EDT, Aug. 3/8:00 AM ChST, Aug. 4
Apra Harbor (Guam)	Open	6:00 PM EDT, Aug. 3/8:00 AM ChST, Aug. 4

Source: U.S. Coast Guard

- According to the Port Authority of Guam, the tanker *Barents Sea* is due into Apra Harbor (Guam) Thursday August 13. According to shipping data from Reuters, the tanker’s last charter carried clean products. Port records also indicate that the tanker *SLNC Pax* is due into Apra Harbor on Friday August 14, but data from Reuters could not clarify any additional details.
- USCG is working to clear an iso-tainer in the port for use at the hospital. The iso-tainer will hold fuel for the hospital’s generator. The iso-tainer is being transported on the USS *Ashland*, which is scheduled to arrive August 8.

### Petroleum Product Pipelines

- CNMI has no major petroleum transport pipelines.

### Natural Gas Pipelines

- CNMI has no natural gas pipelines.

### Natural Gas Processing

- CNMI has no natural gas processing plants.

### Natural Gas Storage

- CNMI has no natural gas storage facilities.

### Territory Government Information:

- Northern Mariana Islands
  - The Saipan EOC is fully activated (day shift), and the generator at the site has been repaired.
  - Major Disaster Declaration was issued yesterday, August 5, for the incident period of August 1-August 3.
  - On August 2, Ralph DLG. Torres, Lieutenant to CNMI Governor, declared a State of Major Disaster and Significant Emergency for the entire Commonwealth.
  - The CNMI Governor also declared a price freeze for the Commonwealth as of August 3, 2015. Pursuant to the Commonwealth Disaster Price Freeze Act, this price freeze shall apply to the following items:



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- Gasoline, kerosene, diesel fuel, natural gas, and all other chemical fuels, whether in gaseous, liquid, or solid form;
  - Generators, cables, wires, electrical batteries of every sort, and similar equipment for the generation or transmission of electrical power.